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Plan

Waste Tracking Plan for the Idaho CERCLA Disposal Facility Complex

Idaho Cleanup Project

The Idaho Cleanup Project is operated for the
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ABSTRACT

This plan describes how waste will be tracked at the Idaho CERCLA Disposal Facility (ICDF) Complex, which is located within the Idaho National Laboratory (INL). A large volume of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) waste will be generated at the INL and this waste will require disposal. The ICDF Complex is the centralized INL facility responsible for receipt, storage, treatment (as necessary), and disposal of INL CERCLA remediation waste. The ICDF Complex includes functions (facilities) for receiving, weighing, staging and storing, treating, repackaging, and disposing of waste soils and debris, and is comprised of the landfill, evaporation pond (two cells), leachate collection system, staging and storage areas, decontamination facility (including the treatment unit), administrative facility, and systems necessary for such operations. This plan describes the process for tracking waste from the generator to final disposal.

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ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	*Code of Federal Regulations*
COB	close of business
CP	Container Profile
DOE	U.S. Department of Energy
DOE-ID	Department of Energy Idaho Operations Office
EPA	U.S. Environmental Protection Agency
GIS	geographical information system
HWMA	Hazardous Waste Management Act
ICDF	Idaho CERCLA Disposal Facility
IDAPA	Idaho Administrative Procedures Act
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
IWTS	Integrated Waste Tracking System
LDR	land disposal restriction
MLLW	mixed low-level waste
NESHAP	National Emission Standards for Hazardous Air Pollutants
OU	operable unit
OWTF	On-Site Waste Tracking Form
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
RWMC	Radioactive Waste Management Complex
SLERA	Screening Level Ecological Risk Assessment
SSA	Staging and Storage Annex

SSSTF	Staging, Storage, Sizing, and Treatment Facility
TFR	Technical and Functional Requirements
TSCA	Toxic Substances Control Act
UHC	underlying hazardous constituent
USC	*United States Code*
WAC	Waste Acceptance Criteria
WAG	waste area group
WDS	Waste Disposition Specialist
WGS	Waste Generator Services

1. INTRODUCTION

The Department of Energy Idaho Operations Office (DOE-ID) authorized a remedial design/remedial action for the Idaho Nuclear Technology and Engineering Center (INTEC) in accordance with the Waste Area Group (WAG) 3, Operable Unit (OU) 3-13 Record of Decision (ROD) (DOE-ID 1999). The OU 3-13 ROD requires the removal and on-Site disposal of some of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) remediation waste generated within the boundaries of the Idaho National Laboratory (INL). The Idaho CERCLA Disposal Facility (ICDF) Complex was constructed to meet this requirement.

The ICDF Complex is an on-Site, engineered facility located south of the Idaho Nuclear Technology and Engineering Center (INTEC) and adjacent to the old INTEC percolation ponds. Designed and authorized to accept not only WAG 3 wastes but also wastes from other INL CERCLA actions, the ICDF Complex includes the necessary subsystems and support facilities to provide a complete waste management system. The major components of the ICDF Complex include the following:

- The disposal cells (landfill)
- An evaporation pond, consisting of two cells
- The Staging, Storage, Sizing, and Treatment Facility (SSSTF).

The ICDF Complex, including a buffer zone, covers approximately 40 acres, with a landfill disposal capacity of approximately 510,000 yd^3. The ICDF landfill meets the substantive requirements of Resource Conservation and Recovery Act (RCRA) Subtitle C (42 *United States Code* [USC] § 6921 et seq.), Idaho Hazardous Waste Management Act (HWMA 1983), DOE Order 435.1, and Toxic Substances Control Act (TSCA) (15 USC § 2601 et seq.) polychlorinated biphenyl landfill design and construction requirements. The landfill is the consolidation point for CERCLA-generated wastes within the INL boundaries. The landfill will be able to receive CERCLA-generated wastes outside WAG 3 that meet the land disposal restriction (LDR) requirements delineated in the *ICDF Complex Waste Acceptance Criteria* (WAC) document (DOE-ID 2005a). Waste generated within the WAG 3 area of contamination that has not triggered disposal is not required to meet LDR criteria.

The evaporation pond will be the disposal site for ICDF leachate. Aqueous waste generated as a result of operating the ICDF Complex and meeting the evaporation pond WAC can be accepted. In addition, aqueous waste from other CERCLA activities at the INL that has met the evaporation pond WAC may be disposed of in the evaporation pond in accordance with the pond section of the ICDF Complex WAC. Other aqueous wastes may be disposed of in the evaporation pond in accordance with the pond section of the ICDF Complex WAC (DOE-ID 2005a).

1.1 Purpose and Need

The INL Integrated Waste Tracking System (IWTS) will be used at the ICDF Complex to aid in tracking waste that is entering and leaving the facility to ensure complete, generation-to-disposition tracking. IWTS also provides documentation of waste that is disposed of at the facility, including source, characterization, hazardous and radioactive constituents, and disposal location.

Tracking of waste destined for disposal at the ICDF Complex will begin at the Complex user's site and end with disposal. Waste entering the ICDF Complex will be controlled on the basis of source, physical form, and concentration of hazardous constituents. A uniform and consistent waste acceptance process has been implemented to include planning, waste certification, waste shipment, and waste receipt verification. The SSSTF will be the center for all waste handling and processing for the ICDF Complex. This facility provides centralized receiving, inspection, and treatment for incoming waste from various INL CERCLA remediation sites.

1.2 Requirements

The ICDF Complex's waste tracking system addresses two specific applicable or relevant and appropriate requirements that were identified in the OU 3-13 ROD dealing with waste tracking (i.e., record keeping and surveying requirements; see Table 1).

Table 1. IWTS compliance with applicable or relevant and appropriate requirements.

Regulation (*40 Code of Federal Regulations* [CFR])	Compliance Demonstration
§ 264.309 – The owner or operator of a landfill must maintain the following items in the operating record required under §264.73: (a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and	IWTS, the INL Integrated Waste Tracking System, has the capability to generate an electronic map. Permanent benchmarks will be identified and used as reference points for this map. Locations for each cell will be maintained on this system.
(b) The contents of each cell and the approximate location of each hazardous waste type within each cell.	Using the XYZ coordinate system available in IWTS, each hazardous waste type received at the facility will be tracked to its final location within the landfill cells. Coordinate cell size will be addressed in the "ICDF Waste Placement Plan" (EDF-ER-286).

2. INITIATION OF WASTE INTO THE ICDF COMPLEX

Before waste is accepted into the ICDF Complex, an IWTS Material Profile must be completed by the Complex user and provided to ICDF Complex management. In addition, the waste must be on the ICDF Complex schedule. The ICDF Complex waste tracking process is shown in Figure 1.

2.1 Waste Acceptance Scheduling Requirements

Upon identification of a waste as a potential candidate for entrance into the ICDF Complex for treatment, storage, or disposal, ICDF Complex users contact the ICDF Complex Waste Generator Services (WGS) interface to begin the planning and scheduling process. All ICDF Complex users must provide project schedules to ICDF Complex management and operations for planning purposes. Failure to provide project schedules or to participate in routine planning discussions may result in delays to the acceptance process.

Operational schedules shall include anticipated waste to be shipped. Schedules will be available to applicable parties (e.g., ICDF Complex management, operations team, generating WAGs, etc.) throughout the duration of the project.

Required scheduling information includes, at a minimum, the waste volume, general class of waste (described in Section 2.2 of the ICDF Complex WAC [DOE-ID 2005a]), primary waste forms, potential radioactive and hazardous constituents, applicable listed waste codes, expected waste disposition pathway, and special handling requirements, including any anticipated need for treatment.

2.2 Waste Characterization

Characterization of all waste submitted for acceptance into the ICDF Complex is the responsibility of the ICDF Complex user and must be completed before the IWTS Material Profile is submitted. The user may use either acceptable knowledge or sampling and analysis to characterize the waste. Acceptable knowledge/process knowledge and the appropriate use thereof is described in *ICDF Complex Waste Acceptance Criteria*, Sections 4.2.1 and 4.2.2, “Physical Criteria” and “Chemical Criteria,” respectively (DOE-ID 2005a).

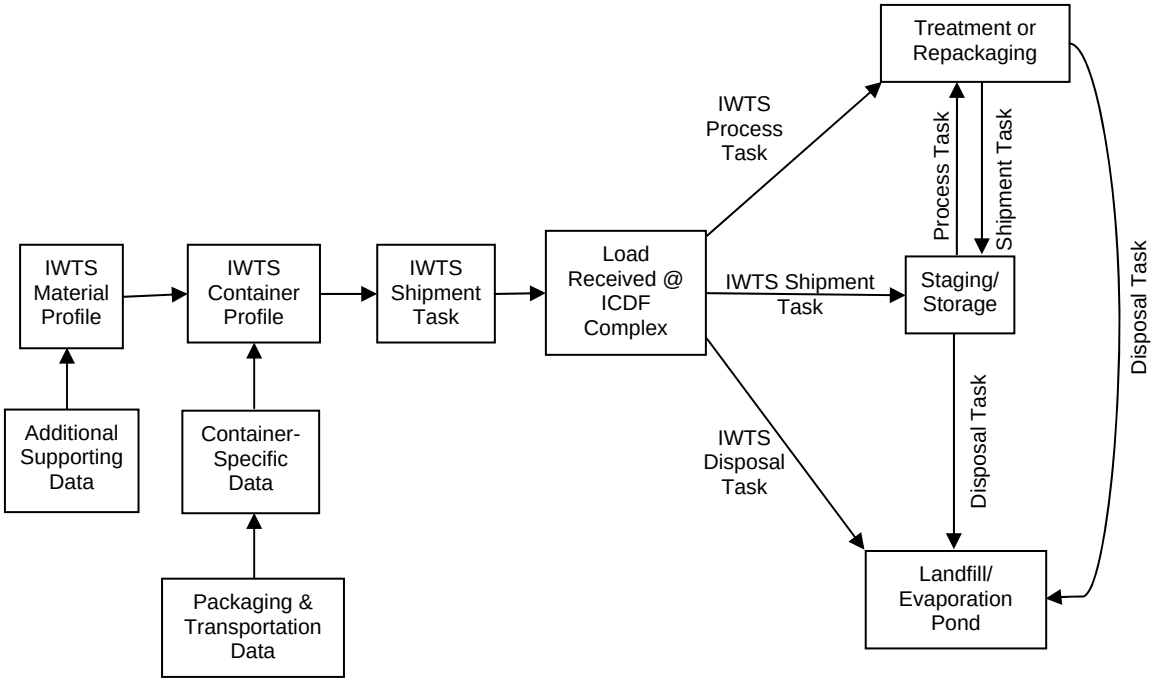

Figure 1. ICDF Complex waste tracking process.

3. WASTE ACCEPTANCE INTO THE ICDF COMPLEX

Before waste can be shipped to the ICDF Complex, an IWTS Material and Waste Characterization Profile (Material Profile) and corresponding Container Profiles must be completed. The Profiles are described below.

3.1 IWTS Material and Waste Characterization Profile (Material Profile)

The ICDF Complex user completes an IWTS Material Profile for the waste stream. A Material Profile (see example in Appendix B) is required to be entered into IWTS a minimum of 3 months before the anticipated shipping date for each waste stream entering the ICDF Complex. The Material Profile is completed using the information obtained during the waste characterization process and any other supporting information deemed necessary. The Material Profile describes the chemical, radiological, and physical characteristics for the waste stream, which are generally entered as maximum/minimum ranges to encompass all containers in the waste stream. IWTS automatically assigns the Material Profile a unique identification number, beginning the process of electronically tracking the waste.

When the Material Profile is complete, the user electronically certifies the profile and notifies the ICDF Complex WGS interface. At this time, an IWTS logic/limit check is conducted. Along with the Material Profile, the ICDF Complex user is required to submit applicable supporting documentation, such as the hazardous waste determination, LDR determination, analytical results, paint filter test results, radiological and chemical screening results, special analytical processes identified for a specific waste type, and the necessity for debris treatment.

Before acceptance by the ICDF WGS interface, verification sampling, if required by the *ICDF Complex Waste Profile and Verification Sample Guidance* (DOE-ID 2005b), will be performed by ICDF to verify the waste stream is within the parameters of the Material Profile. Prior to shipment of waste, the generator will be notified of the verification requirements, and arrangements will be made to collect the verification samples. Verification sampling results must be received and must validate prior to shipment. It should be noted that ICDF Complex personnel must access the waste in order to collect the required verification samples.

Once the Material Profile is certified, the ICDF Complex WGS interface reviews the Material Profile and electronically accepts or rejects the waste stream. As part of the Material Profile acceptance, ICDF Complex personnel will approve the destination of the waste within the ICDF Complex. Acceptance will be complete. After ICDF Complex management approves the Material Profile, the ICDF Complex user has approval to send the waste stream to the ICDF Complex, provided the waste is within the WAC limits. Verification sampling of the waste stream to verify that it is within the parameters of the approved Material Profile is performed before the waste is shipped to the ICDF Complex, and is described in the *ICDF Complex Waste Profile and Verification Sample Guidance* (DOE-ID 2005b).

If ICDF Complex WGS personnel review the Material Profile and find conflicts between the profile and the hazardous waste determination or verification sampling results, ICDF Complex WGS will work with the ICDF Complex user to resolve the discrepancy. If the waste is determined unacceptable for disposal at the ICDF Complex, then storage may be an option.

After the waste is scheduled for shipment, it is the responsibility of the ICDF Complex user to notify the ICDF Complex management of any delay or deviations from the Material Profile that may occur. This may require the Material Profile to be amended and a new shipping date to be established. The ICDF Complex user corrects the Material and Container Profiles to address deficiencies. The ICDF Complex WGS interface reviews changes to the profiles and either accepts or rejects the changes.

It should be noted that ICDF Complex personnel will need access to the waste in order to collect the required verification samples. Prior to shipment of waste, the generator will be notified of the verification requirements, and arrangements will be made to collect the verification samples.

3.2 IWTS Container Profile

The ICDF Complex user completes a Container Profile for each container of waste intended to be shipped to the ICDF Complex. An IWTS Container Profile (shown in Appendix C) is used to track containers of waste belonging to the waste stream identified by the Material Profile. A container in IWTS is defined as a parcel of waste with a defined volume and/or weight, such as a box, roll-off box, dump truck, or drum. The Container Profile identifies the chemical, radiological, and physical characteristics for that particular container. These characteristics are entered as specific values and are encompassed by the maximum/minimum ranges of the associated Material Profile. Supporting information specific to the individual containers, such as special handling instructions, identification of a nonstandard waste container, and documentation of physical verification is also provided in the Container Profile.

The Container Profile is generated from the Material Profile. IWTS automatically ties the container to the waste stream using the Material Profile's identification number. In addition, a unique barcode number is assigned to each container, and is used as the identifier when the Container Profile is entered into IWTS. This barcode number electronically tracks the actual container and Container Profile in IWTS. Upon completion of the profile, the ICDF Complex user certifies the information is complete and accurate. The Container Profile is then electronically available for ICDF Complex personnel review and approval. Approval of the Container Profile constitutes approval to ship the waste to the ICDF Complex. After both the Material and Container Profiles are approved, the waste will be assigned a date for shipping to the ICDF Complex.

4. WASTE PACKAGING AND SHIPMENT

The ICDF Complex user will work with the Waste Disposition Specialist (WDS) who is required to prearrange the delivery time and date of all waste shipped to the ICDF Complex and ensure that an On-Site Waste Tracking Form (OWTF) accompanies the shipment to the ICDF Complex.

4.1 Waste Packaging

The ICDF Complex user is responsible for correctly packaging, marking, and labeling waste for acceptance into the ICDF Complex, including any applicable Department of Transportation requirements. The unique barcode number assigned to the container when the Container Profile was completed is applied at the time

of packaging. The ICDF Complex WAC contains ICDF Complex-specific container selection and packaging requirements.

The WDS personnel (with ICDF oversight and acceptance) will check the shipment at the remediation site to ensure that the waste containers are packaged, marked, and labeled to meet the requirements of the ICDF Complex WAC (DOE-ID 2005a) and Department of Transportation requirements, if applicable. All of the waste packaged for shipment to the ICDF Complex will be inspected during the remediation excavation and/or loading process to ensure that (1) the waste matches the submitted Material and Container Profiles, (2) the waste does not contain prohibited material (e.g., free liquids), (3) void space requirements are met (if applicable), and (4) containers are compatible with waste contents. This check ensures that waste received at the ICDF Complex will not be rejected because of incorrect packaging at the generation site.

4.2 Waste Shipment

Prior to shipping, the WDS completes a Shipment Task (see example in Appendix D) in IWTS for the waste shipment. The container barcode numbers, shipping date, originating facility and receiving unit, and other container-specific and shipment-specific information are entered onto the Shipment Task. After all appropriate approvals are obtained, the Shipment Task is electronically available for ICDF WDS approval.

Before the shipment leaves the generating facility, individual OWTFs are printed for each container on the Shipment Task. The OWTF ensures the waste acceptance process can continue in the unlikely event that IWTS is unavailable. Data from OWTFs will be added to IWTS as soon as possible but not to exceed close of business (COB) the next working day. OWTFs are maintained at the ICDF in the event that emergency response activities require information regarding waste, constituents, and amounts placed during any given day.

The ICDF Complex user performs the “execute send” portion of the Shipment Task. The “execute send” portion of a shipment task provides the Complex user a final opportunity to check the shipment against the current ICDF inventory and WAC limits. The constituents and concentrations are “virtually” added to the existing ICDF inventory, the sum is compared to WAC limits, and the shipment either passes or fails. This virtual check gives the Complex user reasonable assurance that the shipment will not exceed WAC limits.

The OWTF must accompany the load and be verified at the ICDF Complex gate. The Material and Container Profiles must be approved before the load arrives at the gate.

5. WASTE RECEIPT

When waste is received at the ICDF Complex, the shipment and corresponding paperwork will be checked before acceptance. This process is described below.

5.1 ICDF Receipt Inspection

When the shipment arrives at the ICDF Complex, the electronic documentation (e.g., IWTS Material Profile, Container Profiles, Shipment Task) and paperwork (e.g., OWTF, Uniform Hazardous Waste Manifest, Bill of Lading, etc.) accompanying each shipment of waste will be reviewed. Receipt inspection will be performed on all incoming shipments through a combination of visual inspection and cross-check against the IWTS Shipment Task, OWTF, and Material and Container Profiles. As a minimum, the waste shipment will be checked against accompanying documentation for the correct Material Profile number, correct Container Profile numbers, proper number of containers, correct container weights/volumes, adequacy of shipping documentation, and appropriate marking and labeling of containers. Additional checks will be performed on a random basis as determined by CH2M-WG Idaho, LLC (CWI) Quality Assurance. Detailed information on the ICDF waste receipt program is provided in Section 4.3.1, "Waste Receiving and Inspection," of the *ICDF Complex Operations and Maintenance Plan* (DOE-ID 2006).

5.2 Receiving

After the shipment has been receipt-inspected, the waste is accepted into the ICDF Complex by the Weighmaster, then the shipment is weighed, and the weight is recorded on the OWTF, if required. The ICDF Complex Weighmaster signs the OWTF as "shipment accepted," and electronically accepts the waste by completing the "shipment received" portion of the IWTS Shipment Task.

. Every effort will be made to complete the "shipment received" portion of the task following the physical receipt inspection. However, if circumstances do not allow completing the "shipment received" portion of the task at this time, it will be completed by COB the next operating day. In addition, data (e.g., weight, disposal grid) from the OWTF will be entered into IWTS as soon as possible, not to exceed COB the next operating day. OWTFs are maintained at the ICDF Complex should emergency response activities require information regarding waste, constituents, and amounts placed during any given day.

6. WASTE DESIGNATION

Once the waste is accepted, various IWTS tasks are completed to electronically transfer and track the waste, depending on whether the waste will be stored, staged, treated, repackaged, or direct disposed. An IWTS Shipment Task is used to transfer the waste to

a staging or storage area. A Disposal Task is used to transfer waste to the landfill or evaporation pond for disposal, and a Process Task is used to transfer waste from an original container into a receiving/destination container in the case of treatment in the treatment unit or repackaging. More information on how the tasks are used for waste tracking is provided below and in Appendix A of this Plan. An example of a Shipment Task is provided in Appendix D.

6.1 Waste Staging and Storage

Waste arriving at the ICDF Complex may be managed differently for a variety of reasons, such as while awaiting treatment, pending identification of treatment capacity, or awaiting disposal. A brief description of the storage and staging areas is provided below. Detailed information on how these storage areas are operated is provided in Section 5 of the Operations and Maintenance Plan (DOE-ID 2006).

6.1.1 Waste Storage

Upon physical receipt of the shipment at the ICDF Complex storage area, a location is assigned for each container and the precise location is noted on the OWTF. Every effort will be made to complete the shipment task immediately following actual receipt. However, if circumstances do not allow completing the shipment task at this time, it will be completed by COB the next operating day.

6.1.2 Waste Staging

The ICDF Complex contains several waste staging areas. The staging areas will perform different functions, as described in Section 5 of the Operations and Maintenance Plan (DOE-ID 2006).

An IWTS Shipment Task will be used to electronically move the waste from receiving into the staging areas. The process is the same as described above in Section 6.1.1, except the receiving location will be a staging area. Every effort will be made to complete the shipment task immediately following actual receipt. However, if circumstances do not allow completing the shipment task at this time, it will be completed by COB the next operating day.

6.2 Waste Disposal

Waste may be taken directly to the landfill or evaporation pond from: (a) receiving, (b) after being stored, staged, or (c) after being treated. An IWTS Disposal Task is used to track waste being disposed of at the ICDF Complex.

6.2.1 Landfill

If the waste meets the ICDF Complex WAC (DOE-ID 2005a), the waste may be taken from the receiving area directly to the ICDF landfill for disposal. The OWTF accompanies the waste and is signed off when waste is disposed of.

ICDF Complex personnel create and execute the Disposal Task. Logic checks are automatically calculated in the IWTS program and notification is relayed to the facility if any limits are exceeded (80%). The checks include adding the waste constituents and quantities (e.g., curies, grams) to the current landfill inventory. The sum is compared to established WAC limits and the task either passes or fails. Disposal of waste that has first been stored, staged, or treated at the ICDF Complex follows this same process. The only difference is that the originating facility for the Disposal Task will be the ICDF storage, staging, or treatment unit. Every effort will be made to enter data from the OWTF and complete the disposal task following actual placement of the waste. However, if circumstances do not allow, data will be entered and the disposal task completed by COB the next operating day. Should emergency response activities require information regarding waste, constituents, and amounts placed during any given day, OWTFs are maintained at the ICDF Complex.

6.2.2 Coordinates

The ICDF landfill will be modeled into three-dimensional grid coordinates in IWTS to correspond to the physical X/Y/Z axis. The specific grid where the waste was placed is noted on the OWTF and entered into IWTS. Each Disposal Task in IWTS identifies the disposal grid coordinates for each container or load deposited, which is updated when the task is executed, ensuring the documentation of the precise location of the waste within the landfill. Sufficient grid coordinates have been created to accommodate the physical reality (e.g., spreading by the bulldozer) that a container's contents may be distributed across as many as four (4) grids.

6.2.3 Evaporation Pond

Aqueous waste that meets the WAC (DOE-ID 2005a) may be sent directly to the pond for disposal, or stored or treated first. An IWTS Disposal Task is used to electronically move the waste from receiving, storage/staging, treatment, or disposal in the evaporation pond. The process is the same as described in Section 6.2.1 above except the receiving location will be the evaporation pond instead of the landfill.

The cell where the waste is placed is noted on the OWTF for entry into IWTS, similar to the landfill grids.

6.2.4 Waste Processing

Upon receipt, waste may be sent for processing at the ICDF Complex. Processing options at the Complex include either treatment at the treatment unit or repackaging at the decontamination building.

6.2.5 Treatment

If the waste does not meet the WAC, then the waste may be sent to the treatment unit, provided the waste meets the specific treatment unit criteria (e.g., < 6 in. in diameter, < 500 mr/hr at contact radiation reading). Contaminated soil and hazardous debris have been identified as candidates for treatment. On occasion, aqueous liquids and/or sludge will be used to augment the treatment recipe in place of non-contaminated ingredients (e.g., water).

An IWTS Process Task is used to electronically transfer waste (e.g., constituents and associated quantities) and any regulatory designations (e.g., U.S. Environmental Protection Agency [EPA]) codes, underlying hazardous constituents (UHCs) from an original container into a receiving/destination container. ICDF Complex personnel create and execute the Process Task. Based upon defined parameters (weight, percent, etc.) the system removes constituents and associated quantities from an original container and partitions them into a receiving/destination container. In addition, the system transfers the original EPA codes/constituents and any UHCs to the receiving/destination container. This ensures original EPA codes and UHCs are not inadvertently omitted. As with all other tasks, when the Process Task is completed, the “incoming waste” is checked against any established inventory or treatment unit limits to ensure none are exceeded. Every effort will be made to complete the process task following actual treatment. However, if circumstances do not allow completing the process task at this time, it will be completed by COB the next operating day.

When treatment of the waste is completed, a Shipment Task is used if the containers are to be placed into a storage or staging area, and a Disposal Task is used if the waste will be sent to the landfill or evaporation pond for disposal.

6.2.6 Repackaging

Waste being shipped to an off-Site treatment, storage, or disposal area may require repackaging into containers that meet Department of Transportation packaging requirements, or to meet the off-Site WAC. Waste may be removed from the parent container and placed in an appropriate new container, or the original container may be overpacked into a new container. This work will be conducted in the decontamination building and may be performed in either the treatment area or decontamination bay. An IWTS Process Task is used to track waste being repackaged.

7. INVENTORY TRACKING AND COMPLIANCE LIMITS

Inventory histories and compliance limits will be tracked and reported by IWTS. See the sections below for more detail. In addition, Technical and Functional Requirements document (TFR) -2540, "The ICDF Waste Tracking System," delineates the compliance limits and reports developed to support ICDF operation.

7.1 Inventory Tracking

Inventory histories for all ICDF storage locations based on container movement (date versus location) will be used to provide real-time data on the current inventory and ensure compliance with inventory limits and the ICDF Complex WAC (DOE-ID 2005a). Hand-held inventory tools may be used to perform periodic inventory checks of the treatment, storage, and staging areas. Using the hand-held tools, IWTS-reported inventory can be checked against the actual physical inventory of a location. ICDF Complex personnel document these inventory checks in IWTS, which also provides for documentation of any inventory discrepancies and resolutions to the discrepancies.

Since inventory is location-specific and relies on container movement (e.g., shipment tasks, disposal tasks), both the current and past inventories for a location can be tracked and reported. Location-specific inventories are maintained by physical properties (e.g., individual container ID #, total container count, total volume and weight), radiological properties (e.g., fissile material, individual radionuclides and activities), and chemical properties (e.g., constituents and amounts). Accurate inventory tracking relies on the timely creation and completion of transactions (e.g., Shipment and Disposal Tasks). Every effort will be made to complete transactions as soon as physical movement occurs. In the event that circumstances do not allow completion of transactions immediately following physical movement, they will be completed no later than COB the next operating day.

Calculate and record the gallons transferred from each flow meter/totalizer in the ICDF Facility Operations Log once per day. Analytical data from sampling of landfill leachate may be used to populate IWTS leachate Container Profiles (CPs). These CPs representing discreet volumes (e.g., 5,000 gal) with constituents and activities/masses (2.7E-6 Ci of I-129, 15.4 g of Hg, etc.) will be transacted (e.g., shipment task) from the landfill to the evaporation ponds when necessary. Due to the small volumes of hazardous constituents being transferred, it may not be necessary to decrement the landfill. The evaporation pond constituent inventory will increment accordingly upon completion of each transaction. When circumstances warrant, leachate analytical data will be used as the basis for adjusting the landfill constituent activity/mass.

Following completion of a generating WAG's remediation activities, ICDF Complex personnel will review analytical data derived from the waste characterization process and analytical data from ICDF verification sampling for principal constituents (I-129, Pu-238, mercury, arsenic, etc.). Providing (1) data were derived from comparable analytical methods, (2) sampling and subsequent analysis ensures data accuracy and comparability, and (3) equivalent data validation protocol (e.g., Level-A, Level-B) was employed, the ICDF may elect to adjust the landfill inventory using the constituent/data mean at the 80% confidence level. If review of the data does not indicate these conditions are met, then the values used to originally populate the IWTS Material/Container Profiles will stand.

7.2 Compliance Limits

Numerous compliance checks (physical, radiological, chemical and other operational, etc.) have been built into the IWTS system. "Physical Inventory" checks include gross and net weight, gross and net volume, and container count. "Radiological Inventory" checks include WAC-defined nuclide concentrations. "Chemical and Other Inventory" checks include WAC-defined quantities. "Operational Inventory" checks include LDRs, IDAPA, NESHAP, SLERA, groundwater contaminants of concern, and transuranic radionuclide concentration. Using limits defined and enabled at the facility (e.g., ICDF Complex), unit (SSSTF receiving, SSSTF treatment, landfill, evaporation pond, etc.), and Grid-X (Landfill Grid A5L-1, etc.) designations, IWTS checks transactions (e.g., shipment tasks, disposal tasks, process tasks) for limit compliance. Constituents (e.g., radiological, chemical) and amounts (e.g., curies, grams) associated with a transaction are added to the existing inventory and compared to established limits. These limits may be daily, annual, or total depending on the media being considered. If the sum of the current inventory and transaction are less than the established limit, the transaction passes. If the sum of the current inventory and transaction are greater than the established limit, then the transaction fails or a warning is provided depending on the limit definition. Limit compliance reports have been prepared for each of the limits identified

above and are available for the various locations at the ICDF Complex. Limit evaluations are electronically stored for each task for historical reference and provide objective evidence demonstrating limit compliance.

7.3 Reporting

IWTS contains many standardized reports accessed directly in the software. These reports typically deal with day-to-day operations information such as inventories, limit compliance, and process and disposal activities for specified locations. Other reports, such as regulatory-driven or management level reports, are obtained through Microsoft Access or web-based applications. Section 9.2.2, "Nongroundwater Monitoring Data Submittals and Notifications," of the Operations and Maintenance Plan (DOE-ID 2006), describes required reports for the ICDF Complex that may be supported by IWTS data.

8. IN-TRANSIT RESOLUTION ACTIONS

This section covers corrective action once the waste has arrived at the ICDF Complex; actions taken before waste is received into the Complex are described in Sections 2 and 3 of this plan.

Noncompliant waste received at the ICDF Complex will require appropriate resolution before waste acceptance. Resolution alternatives may include, but are not limited to, correction of the noncompliant condition at the ICDF Complex, conditional acceptance of the waste at the ICDF Complex, staging at an appropriate location until resolution of the issue, or returning waste to the generating WAG. A waste specialist will be contacted prior to returning waste to the generating WAG to ensure all regulatory issues are appropriately considered.

If, upon receipt inspection of the shipment, the documentation is incomplete or incorrect, the waste will be moved to the truck holding area inside the ICDF Complex fence pending resolution. The waste may be held in this area no longer than 10 working days before being sent to an appropriate staging or storage unit or returned to the generating WAG. ICDF Complex management will work with the ICDF Complex user to resolve the issue(s) in a timely manner. Resolution may include contacting the ICDF Complex user to correct discrepancies on the Material Profile, obtaining more information, correcting mislabeling, etc.

In addition to immediate resolution of the noncompliant conditions, further steps will be taken to determine the underlying cause of the problem and implement corrective actions as necessary to prevent recurrence. Reoccurrence of noncompliant shipments from an ICDF Complex user may result in rejection of the Material Profile and termination of shipments until the issues have been resolved.

9. RECORDS MANAGEMENT

All records will be kept on file by the RWMC document control organization. The records and documents that will be kept and maintained include IWTS Waste and Container Profiles and supporting documentation, map/cell locations of wastes, shipping documentation, inspection records, tank records, and asbestos-TSCA waste records. In accordance with the Operations and Maintenance Plan (DOE-ID 2006), records created, received, or maintained by the ICDF shall be managed according to Management Control Procedure (MCP) -557, "Managing Records."

10. REFERENCES

40 CFR 265.309, "Surveying and Recordkeeping," *Code of Federal Regulations*, Office of the Federal Register, July 1999.

15 USC § 2601 et seq., 1976, "Toxic Substances Control Act of 1976," *United States Code*, October 11, 1976.

42 USC § 6901 et seq., 1976, "Resource Conservation and Recovery Act of 1976," *United States Code*, October 21, 1976. (The 1980 Amendment is cited as the "Solid Waste Disposal Act Amendments of 1980.")

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11. APPENDIXES

Appendix A, Integrated Waste Tracking System Description

Appendix B, IWTS Material Profile Example

Appendix C, IWTS Container Profile Example

Appendix D, IWTS Shipment Task Example

Appendix A

Integrated Waste Tracking System Description

The ICDF Complex will use the INL IWTS to aid in the tracking of waste entering and leaving the facility. IWTS is used across the INL to track hazardous, low-level, and mixed low-level waste, and provides features that aid in complying with requirements unique to the DOE complex. The system is a replicated client-server application distributed on several servers across the INL. This feature provides flexibility when deploying the system across a large, geographically-diverse area using various qualities of network service.

A-1. SYSTEM DESCRIPTION

A-1.1 Background

IWTS is an INL-developed software that has been used to track hazardous and mixed low-level waste since 1995. In June 1997, the INL began using IWTS to also track low-level waste. The system has been continuously upgraded and modified to reflect changing environmental and waste management business practices and to help implement new regulatory and DOE requirements.

A-1.2 System Functions

A-1.2.1 Characterization and Tracking

IWTS is a functional database used to track containerized waste from generation to final disposition. IWTS provides detailed characterization information (chemical, physical, radiological) of waste streams and individual containers. IWTS tracks container relocations, shipments, disposal, and processing/treatment activities, and provides a genealogical history of processed/treated containers. A Uniform Hazardous Waste Manifest or other required shipping document can be generated from IWTS for shipments requiring such documentation.

A-1.2.2 Inventory Control and Regulatory Compliance

Facility inventory history, based on container movement, is maintained to provide present and historical waste inventory configuration. IWTS evaluates waste inventories against limits established by regulatory drivers such as the Resource Conservation and Recovery Act (RCRA), DOE orders, facility permits, and safety analysis documents, and provides the objective evidence of present and historical compliance. IWTS can be modeled and limit and operational parameters defined to meet the diverse operational needs of waste treatment, storage, and disposal facilities.

A-1.2.3 System Security and Quality Control

IWTS security protocol controls user access to prohibit tampering and prevent accidental data changes. User groups (read only, WGS, traffic, ICDF operations, etc.) are created. Facility (e.g., ICDF Complex) and unit (e.g., SSSTF Receiving, Landfill) authorizations are granted, action (e.g., mixed low-level waste [MLLW] CERCLA generated to be disposed at the ICDF Complex) authorizations are granted, and users are assigned to appropriate groups. If further access control specificity is necessary, granular data element access control is refined at the group and individual user level. User identification and dates are logged during system access, data entries, and data changes to provide accountability. Electronic validation checks enabled at each Waste Type Action (e.g., MLLW CERCLA generated to be disposed at the ICDF Complex) are provided to help ensure complete and quality data entry. IWTS provides configuration control for data changes to quality records.

A-1.2.4 Reporting

IWTS provides the data source for regulatory, management, and waste operations reporting needs. Operations-related reports such as facility inventories, limit compliance evaluations, and container history can be obtained in the IWTS application. Most regulatory reports are compiled from data retrieved from IWTS and then generated in a separate application, such as Microsoft Access, to allow ease of data validation and verification. IWTS data also can be retrieved to compile web-based reporting activities.

A-1.2.5 System Support

A user manual is provided to support the use of IWTS. The manual covers the basics of system navigation, data entry, and execution of Shipment, Process, and Disposal Tasks. A support team is also available to assist with more complex issues and to support special projects that may have needs outside the boundaries of normal IWTS functions.

A-2. WASTE CHARACTERIZATION

A-2.1 Waste Stream

A-2.1.1 Data Input

IWTS houses waste stream characterization information as entered by a system user. The system provides for data entry of chemical, radiological, and physical characteristics and is entered into a Material Profile. At the waste stream level, these characteristics are typically entered as maximum/minimum value ranges to encompass all containers associated with the waste stream.

IWTS also provides for data entry of supporting information that may be useful in determining a disposition path or compliance to established WAC. Supporting information may include descriptions of waste generating processes, analytical methods used, approved deviations from established WAC, and generation volume estimates.

Once waste stream characterization data are entered into IWTS, the data can be accessed at any time. These data can be either viewed via the IWTS client or printed out in hard copy. Updates and changes to data are replicated to all IWTS servers within an hour to ensure IWTS users at all site locations have access to the most current data. Changes to approved Material Profiles are captured and document the original data value, the new data value, identification of the user making the change, and the date and time of the change.

A-2.1.2 Waste Stream Approval

IWTS uses a three-step approval paradigm for documenting the disposition approval of waste streams. The steps incorporate data certification, data review, and disposition approval, as defined below, based on characterization data versus WAC.

- **Data Certification:** Certification is the act of declaring that the characterization data provided in a Material Profile are complete and accurate. The two basic methods of obtaining characterization data are sampling and analysis activities and process knowledge. “Complete data” implies that all waste data required by the ICDF WAC and established regulations have been included in the profile. “Accurate data” implies that all waste data included in the profile match that of the source data documents.

- **Data Review:** A review of a Material Profile is an independent examination to identify possible data errors or missing required data. The review will include a check of the profile data against the source data documents. The review also will ensure that sufficient data have been provided to justify an approval or disapproval for the waste to be offered for disposition based on the ICDF WAC.

- **Disposition Approval:** The approval of a Material Profile is the official consent for the waste defined by the profile to be offered for disposition. The waste being offered for disposition must meet the ICDF WAC.

During the Material Profile approval process, IWTS provides electronic validation checks based on waste types (i.e., hazardous, low-level, MLLW). These checks help the approver ensure complete data entry and determine whether the profile is within the bounds of the value ranges documented in the associated Waste Approval Form. A security scheme has been established in IWTS so that only a user with ICDF rights (such as a WDS) can electronically approve a Material Profile for wastes destined for the ICDF Complex.

A-2.2 Container

A-2.2.1 Data Input

IWTS houses individual container characterization information as entered by a system user. IWTS defines a container as most any parcel of waste with a defined volume and weight such as a drum, box, or dump truck. The system provides for data entry of chemical, radiological, and physical characteristics and is entered into a Container Profile. At the container level, these characteristics are entered as specific values that are encompassed by the maximum/minimum ranges of the associated Material Profile.

IWTS also provides for data entry of supporting information specific to the individual container. Supporting information may include special handling instructions, identification of a nonstandard waste container, and documentation of a physical verification of container contents.

Once container characterization data are entered into IWTS, the data can be accessed at any time. These data can be either viewed via the IWTS client or printed out in hard copy. Updates and changes to data are replicated to all IWTS servers within an hour to ensure IWTS users at all site locations have access to the most current data. Changes

to approved Container Profiles are captured and document the original data value, the new data value, identification of the user making the change, and the date and time of the change.

A-2.2.2 Container Approval

IWTS uses a three-step approval paradigm for documenting the disposition approval for waste containers. The steps incorporate data certification, data review, and disposition approval, as defined below, based on characterization data versus the associated Material Profile.

- **Data Certification:** Certification is the act of declaring that the characterization data provided in a Container Profile are complete and accurate. The two basic methods of obtaining characterization data are sampling and analysis activities and process knowledge. “Complete data” implies that all container data required by the parent Material Profile, the ICDF waste characterization, and established regulations have been included in the profile. “Accurate data” implies that all container data included in the profile match that of the source data documents.

- **Data Review:** A review of a Container Profile is an independent examination to identify possible data errors or missing required data. The review will include a check of the profile data against the source data documents. The review also will ensure that the Container Profile data are within the bounds of the parent Material Profile.

- **Disposition Approval:** The approval of a Container Profile is the official consent for disposition of the container defined by the profile. For container disposition approval to be granted, the container must be within the bounds of the parent Material Profile and the parent Material Profile must be approved. The ICDF facility manager or designee will grant approval.

During the Container Profile approval process, IWTS provides electronic validation checks based on waste types (i.e., hazardous, low-level, MLLW). These checks help the approver ensure complete data entry and determine whether the profile is within the bounds of the value ranges documented in the associated Material Profile.

A-3. WASTE TRACKING

IWTS tracks each waste container by maintaining a logic record of every movement, process, or disposal action performed on an individual container. These actions or tasks are time-based and location-based, thus providing a chronological history for each container. Time and location "logic checks" are built into IWTS to help ensure that a documented task for a container reflects the physical action (i.e., a container in IWTS cannot be electronically moved to more than one location for a particular moment in time).

A-3.1 Waste Movement

A-3.1.1 Incoming Shipments

Waste container shipments to the ICDF Complex are documented in IWTS via a Shipment Task. For each Shipment Task, the ICDF Complex user will identify a unique shipment number, the date and time of shipment, and each individual container on the shipment. The originator of a Shipment Task will execute the "send" portion of the task in IWTS. This triggers logic checks to determine if the Container Profile(s) and associated Material Profile(s) are approved and to determine if any established ICDF Complex limit will be violated.

Once the shipment is received at the ICDF Complex, the receiver will execute the "receive" portion of the task in IWTS. This triggers the same logic checks as executing the "send" portion and also updates the location of the container to the designated location at the ICDF Complex. A security scheme can be established so that only a user with ICDF rights can execute the "receive" portion of a Shipment Task to the ICDF Complex.

A-3.1.2 Outgoing Shipments

Waste container shipments from the ICDF Complex to off-Site locations are documented in IWTS via a Shipment Task. For each Shipment Task, an ICDF Complex user will identify a unique shipment number, the date and time of shipment, and each individual container on the shipment. The Complex user will execute the "send" portion of the task in IWTS. This triggers logic checks to determine if the Container Profile(s) and associated Material Profile(s) are approved and to determine if any established limit of the receiving facility will be violated. A security scheme can be established in IWTS so that only a user with ICDF Complex rights can execute the "send" portion of a Shipment Task from the ICDF Complex.

Once the shipment is received at the receiving facility, the receiver will execute the "receive" portion of the task in IWTS. This triggers the same logic checks as executing the "send" portion and also updates the location of the container to the designated location at the receiving facility.

A-3.1.3 Shipments within the ICDF Complex

Waste container shipments from and to locations with the ICDF Complex are documented in IWTS via a Shipment Task. For each Shipment Task, an ICDF Complex user will identify a unique shipment number, the date and time of shipment, and each individual container on the shipment. The Complex user will execute the "send" portion of the task in IWTS. This triggers logic checks to determine if any established limit of the receiving location within the ICDF Complex will be violated. A security scheme can be established in IWTS so that only a user with ICDF Complex rights can execute the "send" portion of a Shipment Task within the ICDF Complex.

NOTE: *Container Profiles and associated Material Profiles do not need to be approved for shipments within the ICDF Complex. This allows the flexibility to electronically move containers that may not be fully characterized from one ICDF Complex location to another.*

Once the shipment is received at the receiving location within the ICDF Complex, the receiver will execute the "receive" portion of the task in IWTS. This triggers the same logic checks as executing the "send" portion and also updates the location of the container to the designated receiving location within the ICDF Complex.

A-3.2 Waste Processing

A-3.2.1 Process Task

Waste container processing or treatment such as repackaging, sizing, and stabilization, are documented in IWTS via a Process Task. For each Process Task, an ICDF Complex user will identify a unique process number, the date and time of the process, each individual container being processed, and the receiving containers. The Complex user will execute the task in IWTS. This triggers logic checks to determine if any established limit of the receiving process location within the ICDF Complex will be violated. A security scheme can be established in IWTS so that only a user with ICDF Complex rights can execute a Process Task within the ICDF Complex.

A-3.2.2 Source Containers

An input or source container is a container actually being treated or processed. The execution of a Process Task in IWTS updates the status of a source container to "decommissioned." This implies that the source container no longer physically exists in its original configuration, since it has been processed, and can no longer be assigned to another Shipment or Process Task. A container's tracking history will end with a Process Task. Even though a container has been "decommissioned" via a Process Task, all original characterization information remains in IWTS and can be accessed at anytime.

A-3.2.3 Receiving Containers

An output or receiving container is a container that receives the output or end product of a process or treatment. An example would be two source containers being repackaged into a single container; the single container receiving the repackaged waste is the receiving container. The execution of a Process Task in IWTS will partition the radiological source term and EPA codes from the source container(s) into the receiving container(s), thereby aiding in characterization of the receiving container(s).

A-3.2.4 Container Genealogy

IWTS maintains a genealogical history for each container based on its role as a source or receiving container in a Process Task. In each Container Profile, a tree-view can be accessed that identifies each source container contributing to the makeup of a receiving container (or identifies each receiving container into which a source container was divided). The genealogy tree-view can span several generations and identifies the associated task and date that a container became an ancestor or descendant.

A-3.3 Waste Disposal

A-3.3.1 Disposal Task

Waste container disposal is documented in IWTS via a Disposal Task. For each Disposal Task, the Weighmaster will identify a unique disposal number, the date and time of the disposal, each individual container being disposed of, and the disposal location. The Weighmaster will execute the task in IWTS. This triggers limit checks to determine if the established limit of the disposal location within the ICDF Complex will be violated. A security scheme can be established in IWTS so that only a user with ICDF Complex rights can execute a Disposal Task within the ICDF Complex.

A-3.3.2 Disposal Location

The ICDF Complex landfill will be modeled into three-dimensional grid coordinates in IWTS to correspond to the physical X/Y/Z axis of the landfill. Each Disposal Task in IWTS will identify the disposal grid coordinates for each container or load deposited. The execution of a Disposal Task in IWTS updates the location of the container to the designated grid location at the ICDF Complex landfill and updates the status of the disposed container to "decommissioned."

For disposed containers, "decommissioned" implies that the container has reached final disposition and can no longer be assigned to a Shipment Task. IWTS does allow for re-Disposal Tasks in the event that containers are relocated within the disposal location (i.e., moved from one grid location to another as in the case of exhuming a previously disposed container). Re-Disposal Tasks are created, containers are assigned to the task, grid coordinates are specified and the task is executed—moving the container from the original disposal location to the new coordinates.

In the unlikely event that a container must be exhumed, a re-Disposal Task will be created and executed to accommodate and track waste (e.g., containers and contents) moved during the exhumation. The re-Disposal Task will include the precise location (e.g., Grid X, Y, and Z coordinates) of any waste moved to facilitate the exhumation activity. The original Disposal Task for the exhumed container will be unexecuted, thereby removing the container from the landfill inventory. The exhumed container will be transferred to an appropriate storage location, and a shipment task will be created and executed to document the physical movement.

A-3.3.3 Disposal Mapping

IWTS will provide the data source for geographical information system (GIS) mapping of the ICDF Complex landfill. The GIS map will provide a three-dimensional representation of the landfill and a listing of each container or load disposed of at a particular grid coordinate.

A-4. INVENTORY

A-4.1 Storage Inventory

IWTS provides an inventory history for all ICDF Complex storage locations based on container movement (date versus location). Since location inventory is based on container movement, IWTS provides the ability to report both the current and past inventories for a location. A location's inventory is reported by individual container, total container count, and total volume and weight.

The hand-held tools may be used to check IWTS reported inventory against the actual physical inventory of a location. IWTS documents these inventory checks and provides for documenting any inventory discrepancies and resolutions to the discrepancies.

A-4.2 Disposed Inventory

IWTS provides the same inventory history for disposal locations as it does for storage locations. The inventory report will provide the accumulated container count, volume, and weight disposed of for each grid location defined for the landfill.

A-5. LIMIT COMPLIANCE AND REPORTING

A-5.1 Limit Compliance

TFR-2540, "The ICDF Waste Tracking System" delineates the limit compliance functionality being developed to support ICDF operation.

IWTS provides functionality to evaluate compliance with established operational limits, composite analysis limits, and WAC. Numerous compliance checks (physical, radiological, chemical and other, operational, etc.) have been built into the IWTS system. "Physical Inventory" checks include gross and net weight, gross and net volume, and container count. "Radiological Inventory" checks include WAC-defined nuclide concentrations. "Chemical and Other Inventory" checks include WAC-defined quantities. "Operational Inventory" checks include LDRs, IDAPA, NESHAPS, screening level ecological risk assessment, groundwater contaminants of concern, and transuranic radionuclide concentration. Using limits defined and enabled at the Facility (e.g., ICDF Complex), unit (e.g., SSSTF receiving, SSSTF treatment, landfill, evaporation pond), and Grid-X (e.g., Landfill Grid A5L-1, etc.) designations, IWTS checks transactions (e.g., shipment tasks, disposal tasks, process tasks) for limit compliance. Constituents (e.g., radiological, chemical) and amounts (e.g., curies, grams) associated with a transaction are added to the existing inventory and compared to established limits. These limits may be daily, annual, or total depending on

the media being considered. If the sum of the current inventory and transaction are less than the established limit, the transaction passes. If the sum of the current inventory and transaction are greater than the established limit, then the transaction fails or a warning is provided depending on the limit definition. Limit compliance reports have been prepared for each of the limits identified above and are available for the various locations at the ICDF Complex. Limit evaluations are electronically stored with each task for historical reference and provide objective evidence of compliance.

IWTS also provides many reports to aid users in evaluating limits or WAC when automatic logic checks are not necessary or are very complicated to code into the software. Evaluations also can be performed from data retrieved from IWTS and evaluated in a separate application such as Microsoft Access.

A-5.2 Reporting

TFR-2540, "The ICDF Waste Tracking System" delineates the reporting functionality being developed to support ICDF operation.

IWTS provides the data source for development of regulatory, management, and waste operations reports. IWTS houses many standardized reports, especially operations reports, that can be accessed directly in the software. These reports typically deal with day-to-day operations information such as inventories and process and disposal activity for a particular location.

Reports also can be compiled from data retrieved from IWTS and then generated in a separate application such as Microsoft Access. This feature provides flexibility to develop specialized reports outside of the IWTS software. These reports typically are regulatory-driven or management-level reports. The IWTS data also may be retrieved to support web-based reporting activities.

Appendix B

IWTS Material Profile Example

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

General Information

1. ☐ Yes ☑ No Will material and waste characterization be fully capable of complying with applicable Waste Acceptance Criteria?
   If "No", receiving organization approval and completion of the following is required:
   a. Waste Acceptance Criteria requirement(s) not met (list each): ICDF WAC is not part of RRWAC, waste does meet ICDF WAC per Jim Bruce approval
   b. Receiving organization approval letter number for nonstandard material or waste: Jim Bruce must approve ship task

Contact	Name	E-Mail ID	Phone	Pager	Mail Stop
2. Generator Contact	Steve Wilkinson	wilksg@inel.gov	(208) 526-[illegible]	9481	3950
3. Technical Contact	Anne Lundahl	LundahlAL	(208) 5[illegible]	4865	5117

Charge Number: 3XBC31302

4. Material or waste type and action: MLLW: CERCLA Generated to be Disposition[illegible]

5. Profile Name: WAG 5: Grouted Piping, 1000 gal. tank, misc. tools an[illegible] of tank 729 at site ARA-16

6. Waste Generated From:
   ☐ Routine Operations
   ☑ Cleanup/Stabilization Activiti[illegible]
   Is this secondary Cleanup/Stab. wa[illegible]? ☐ Yes ☐ No
   Generating Status:
   ☑ One time only
   ☐ On-going
   NOTE: Indicates whether there will be one shipment or a series of shipments

7. Generating process descripti[illegible] debris [illegible] compou[illegible] hazards. The ARA[illegible] waste co[illegible]ste[illegible] 000 gal s.s. un[illegible]rground tank and associated piping w/in a lidless concrete [illegible], cov[illegible] by a[illegible]el, 3.5 ft of soil. From 1959-1988, the tank received radioactive liquid waste, [illegible]ding [illegible]vat[illegible]he ARA-I hot cells, methanol, acetone, chlorinated paraffin, mixed acids from [illegible]aterials [illegible]re[illegible]ch and metal-etching processes, and other spent solvents. The clean-up of this site is being ac[illegible]es[illegible] under CERCLA, as mandated in the "Record of Decision, Power Burst Facility and Auxiliary R[illegible]o[illegible]ea, Operable Unit 5-12," DOE/ID-10700, Jan. 2000. The sludge and water inside the tank was [illegible]e[illegible]out and treated. These streams are addressed in material profiles 2854N and 2853N, respectively. [illegible] waste profile consists of the s.s. tank, s.s. piping/valves, misc. tools/equipment, HEPA filters, containment tent, plastic, camera, camera spool, and PPE. The waste is considered debris under RCRA and was treated via an alternate treatment method for debris - macroencapsulation to meet the WAC for the SSA @ INTEC pending disposal @ the ICDF. The sludge in the tank contains PCBs up to 98 ppm, and is TSCA-regulated. Because the tank and pipe were drained and dried, they no longer are considered PCB articles; therefore are no longer regulated under TSCA. The tank, piping, and other debris was macroencapsulated and will be disposed of at the ICDF, a subtitle C and TSCA compliant landfill; the waste meets the performance standard for macroencapsulation; and, therefore, meets the applicable LDR requirements. The ARA-16 Tank 729 Radionuclide source-term calculations/assumptions for the tank, piping, and associated debris generated during D&D activities are presented in EDF-2003, "WAG 5, OU5-12, ARA-16 Radionuclide Tank Remedial Action Waste - Radiological Source Term Calculations."

8. Physical state at 70 degrees F (solid, liquid, sludge, gel, etc.): solid

9. ☐ Yes ☑ No Does the material contain free liquids?

10. ☑ Yes ☐ No Current waste minimization plan? (INEEL Generators Only)
    Reference: INEEL P2 Plan, DOE/ID-10333

11. Indicate all that apply:

Example

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

☑ CERCLA	☐ Nonfriable asbestos	☐ Compressed gas cylinders	☐ Wastewater	☐ Debris - 435.1
☐ Scrap Metal	☐ FIFRA	☐ Friable asbestos	☐ Classified material	☐ Debris - Non RCRA/435.1
☐ OSHA carcinogen	☐ Unused material	☐ Soil	☐ Accountable nuclear material	☐ RR Nonradioactive Metals
☐ PCB >= 50 ppm	☐ Used oil	☑ Debris - RCRA	☐ > 100 PPM VOCs	☐ IW Conditional INEEL Landfil
☐ Etiologic Agent	☐ Aerosol cans	☐ Spill cleanup	☐ Universa ste	☐ IW Nonconditional INEEL Lar
				☐ IW Off-site Disposal

12. ☑ Yes ☐ No Is this DOT regulated hazardous material? If yes, identify DOT primary ar Cl
and DOT subsidia s)

13. ☑ Yes ☐ No At the point of generation did this material contain RCRA "F ", or li d v her in pure form, as a mixture, or as a treatment residual (i.e., ash, leachate, spill clean ch cte ic ste es, give applicable EPA:

Source Code: G44 : Remediation of Past Contamination : State p v ta p

Form Code: W002 : Mixed Media/Debris/Devices : Con ed ris ap lo gs/wood, empty containers, glass/piping/othe

and EPA Hazardous Waste Numb CFR 261 0 0

and attach applicable LDR notifi and c n (40 61

14. RCRA hazardous waste determi on w s m : W a ysis, ☐ Process knowlege and/or ☑ Both

15. ☐ Yes ☑ No Does this Mat le co ab s

16. ☐ Yes ☑ No Was an Unde g Hazar s stituent (UHC) determination preformed?

16a. ☐ Yes ☐ No If a UH et n was performed, were any detected in concentrations exceeding the Universal Treatment Standa

17. ☑ Yes ☐ No Is supporting umentation submitted? If yes, list:
WDDF, radiological and chemical analytical data, Record of Decison, RD/RA workplan (DOE/ID-10761, Rev. 0, June 2000), EDF-3002 Rad source term calculations, shipping documentation, specifications on grout and monolith construction

18. ☑ Yes ☐ No The following data, by parameter, has been provided along with analytical data (required for waste to be dispositioned at the ICDF): Mean, Standard Deviation, Confidence Level.

19. ☐ Yes ☐ No Is the material LDR Compliant?

20. ☑ Yes ☐ No Additional narrative: A determination to evaluate for the applicability of UHCs to this waste stream was performed. This waste is defined as debris and carries no characteristic codes; and will be treated in accordance with the alternative treatment standard and be treated via macroencapsulation (40CFR 268.45). Subsequently, identification/declaration of UHCs is not required for this waste stream.

Current Generation Estimates

Estimate Date	Start Year	Int. Yrs.	Volume		Mass		Data Entry By		Inactivated By	
			Quan.	Units	Quan.	Units	User ID	Date	User ID	Date
17-Apr-2002	2001	1	1100.00	FT3			LundahlA	17-Apr-2002		

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Characteristics of Material

1. Physical Characteristics of Material

   a. Layer characteristics:

Layer No.	Physical State at 70 degrees F	Range of Percentage of Total				Description (as required by GI)
1.	solid	100	to	100	vol%	Variable

   b. Density of material or waste (NA for hazardous waste and recyclable material).

   Liquid: _____ **to** _____ g/ml **Solid:** _____ **to** _____

   c. ☐ Yes ☑ No Is this aqueous? If yes, give total solids range:

   _____ **to** _____ g/ml

   d. ☐ Yes ☑ No Is this incinerable liquid? If yes, give viscosity range:

   _____ **to** _____ SSU

2. Chemical Characteristics of Material:

   a. Does the material contain any of the following? For each item [illegible] corresponding quantitative information in 2b.

Yes	No	
☐	☑	Free liquid - Organic based
☐	☑	Free liquid - Aqueous b
☐	☑	Absorbents
☐	☑	Chelating agents
☐	☑	Aqueous liquid with rea [illegible]ide >=
☐	☑	Aqueous liquid with rea [illegible] sulfide >=
☐	☑	Air reactives
☐	☑	Water reactives
☐	☑	Other reactives
☐	☑	Fuming acids or acid gases
☐	☑	Shock sensitive constituents
☐	☑	Explosives
☐	☑	Pyrophorics
☐	☑	Petroleum products
☐	☑	Oxidizers
☐	☑	Benzene
☐	☑	PCBs >= 25 ppm
☐	☑	PCBs >= 5 ppm
☐	☑	PCB liquids
☐	☑	PCB capacitors/ballasts
☐	☑	PCB transformers/regulators
☐	☑	PCB liquid contaminated debris or derived from a spill of PCB liquid
☐	☑	PCBs >= 50 ppm

Y	N	
		F[illegible]o be process in the PWTU only
☐	☑	Oil and grease >= 10 mg/L
		For liquid waste only
☐	☑	Halogenated organic compounds >= 1000 mg/L as listed in 40 CFR 268, Apppendix III
☐	☑	Nickel and/or its compounds (as Ni) >= 134 mg/L
☐	☑	Thallium and/or its compounds (as Tl) >= 103 mg/L
		For solid waste only
☐	☑	Halogenated organic compounds >= 1000 mg/L as listed in 40 CFR 268, Appendix III
		For used oil only
☐	☑	Arsenic >= 5 ppm
☐	☑	Cadmium >= 2 ppm
☐	☑	Chromium >= 10 ppm
☐	☑	Lead >= 100 ppm
☐	☑	PCBs >= 2 ppm
☐	☑	Total halogens >= 1,000 ppm
☐	☑	Total halogens >= 4,000 ppm
		Incinerable wastes only
☐	☑	Bromine in any form
☐	☑	Chlorine in any form
☐	☑	Fluorine in any form
☐	☑	Iodine in any form
☐	☑	PCBs >= 2 ppm
☐	☑	Sulfur in any form

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Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

2. Chemical Characteristics of Material (continued)

b. Composition of material:

Related Characteristic (*Other* Where NA)	Name of Material or Chemical	Carcinogen	Composition Range From	To	Units
Other	debris which came into contact with F-listed waste	☐ Yes ☑ No	0	100	vol%
Concrete	grout used to macroencapsulate debris	☐ Yes ☑ No	30	90	vol%
Filters, HEPA	hepa filter used in containment tent to filter air	☐ Yes ☑ No	1	5	vol%
Metal combinations or assemblies	pipe and valves and flanges	☐ Yes ☑ No	5	10	vol%
Paper and/or cloth	PPE	☐ Yes ☑ No	10	20	vol%
Plastic, Non-halogenated	containment plastic	☐ Yes ☑ No	10	20	vol%
Revise: Metal - Miscellaneous small objects	metal tools such as wrenches	☐ Yes ☑ No	10	15	vol%
Steel, Stainless	stainless steel piping ar	☐ Yes ☑ No	30	40	vol%

c. ☐ Yes ☑ No Is flash point applicable? If yes, complete the following

Flash point is: _____ Method used: _____

(Specify Other): _____

d. Information for incinerable waste only:

(1) Heat of combustion _____ to _____ BTU/lb (2) Ash content _____ to _____ wt%

(3) Total halogen content _____ to _____ ppm (4) Water content _____ to _____ wt%

(5) Suspended particulates content _____ to _____ ppm

Metal	Known or Expected?	Expected Composition Range	Representative Sample Analysis	Detection Limit	Units
Antimony (Sb)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Arsenic (As)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Barium (Ba)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Beryllium (Be)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Cadmium (Cd)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Chromium (Cr)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Cobalt (Co)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Copper (Cu)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Iron (Fe)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Lead (Pb)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Manganese (Mn)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Mercury (Hg)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Molybdenum (Mo)	☐ Yes ☑ No	_____ to _____	_____ to _____		
Nickel (Ni)	☐ Yes ☑ No	_____ to _____	_____ to _____		

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Metal	Known or Expected?	Expected Composition Range	Representative Sample Analysis	Detection Limit	Units
Potassium (K)	☐ Yes ☑ No	_____ to _____	_____ to _____	_____	_____
Selenium (Se)	☐ Yes ☑ No	_____ to _____	_____ to _____	_____	_____
Silver (Ag)	☐ Yes ☑ No	_____ to _____	_____ to _____	_____	_____
Sodium (Na)	☐ Yes ☑ No	_____ to _____	_____ to _____	_____	_____
Thallium (Tl)	☐ Yes ☑ No	_____ to _____	_____ to _____	_____	_____
Vanadium (V)	☐ Yes ☑ No	_____ to _____	_____ to _____	_____	_____
Zinc (Zn)	☐ Yes ☑ No	_____ to _____	_____ to _____	_____	_____

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

e. ☑ Yes ☐ No Was a waste analysis performed (e.g., TCLP Data)?

☑ Yes ☐ No Were the sampling and analysis protocols used in full compliance with SW-846 protocol or other equivalent regulatory agency approved methods?

f. RCRA Hazardous Constituents (Concentration Based D004-D043)

EPA Code	Hazardous Constituent	Exp.? (Y,N)	TCLP Values	Type	Waste Concentration Range From	Waste Concentration Range To	Waste Concentration Range Units	Representative Sample From	Representative Sample To	Representative Sample Units	Detect Limit Limit	Detect Limit Units
Metals:												
D004	Arsenic	☐ ☑										
D005	Barium	☐ ☑										
D006	Cadmium	☐ ☑										
D007	Chromium	☐ ☑										
D008	Lead	☐ ☑										
D009	Mercury	☐ ☑										
D010	Selenium	☐ ☑										
D011	Silver	☐ ☑										
Volatiles:												
D018	Benzene	☐ ☑										
D019	Carbon tetrachloride	☐ ☑										
D021	Chlorobenzene	☐ ☑										
D022	Chloroform	☐ ☑										
D027	p-Dichlorobenzene (1,4-Dichlorobenzene)	☐ ☑										
D028	1,2-Dichloroethane	☐ ☑										
D029	1,1-Dichloroethylene	☐ ☑										
D035	Methyl ethyl ketone	☐ ☑										
D038	Pyridine	☐ ☑										
D039	Tetrachloroethylene	☐ ☑										
D040	Trichloroethylene	☐ ☑										
D043	Vinyl chloride	☐ ☑										
Semi-Volatiles:												
D023	o-Cresol	☐ ☑										
D024	m-Cresol	☐ ☑										
D025	p-Cresol	☐ ☑										
D026	Cresol	☐ ☑										
D030	2,4-Dinitrotoluene	☐ ☑										
D032	Hexachlorobenzene	☐ ☑										
D033	Hexachlorobutadiene	☐ ☑										
D034	Hexachloroethane	☐ ☑										

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

EPA Code	Hazardous Constituent	Exp.? (Y,N)	TCLP Values	Type	Waste Concentration Range From	To	Units	Representative Sample From	To	Units	Detect Limit Limit	Units
Semi-Volatiles:												
D036	Nitrobenzene	☐	☑									
D037	Pentachlorophenol	☐	☑									
D041	2,4,5-Trichlorophenol	☐	☑									
D042	2,4,6-Trichlorophenol	☐	☑									
Pesticides and Herbicides:												
D012	Endrin	☐	☑									
D012	Endrin, Endrin aldehyde	☐	☑									
D013	Lindane, alpha-BHC	☐	☑									
D013	Lindane, beta-BHC	☐	☑									
D013	Lindane, delta-BHC	☐	☑									
D013	Lindane, gamma-BHC (Lindane)	☐	☑									
D014	Methoxychlor	☐	☑									
D015	Toxaphene	☐	☑									
D016	2,4-D	☐	☑									
D017	2,4,5-TP (Silvex)	☐	☑									
D020	Chlordane	☐	☑									
D031	Heptachlor	☐	☑									
D031	Heptachlor epoxide	☐	☑									

Note: "Type*" column designates type of analysis. (1=Approved Methods, 2=Process Knowledge, 3=Both)

g. RCRA Hazardous Constituents (Other)

EPA Code	Hazardous Constituent	TCLP Values	Type	Concentration Range From	To	Units	Representative Sample From	To	Units	Detect Limit Limit	Units
F001A	Spent halogenated solvents used in degreasing; 1,1,1-Trichloroethane	No	2	0	220	mg/kg			mg/kg		
F001D	Spent halogenated solvents used in degreasing; Methylene chloride	No	2		ND	mg/kg			mg/kg		
F001F	Spent halogenated solvents used in degreasing; Trichloroethylene	No	2	0	45	mg/kg			mg/kg		
F005H	Spent non-halogenated solvents; Toluene	No	2	0	21	mg/kg			mg/kg		

Note: "Type*" column designates type of analysis. (1=Approved Methods, 2=Process Knowledge, 3=Both)

h. Underlying Hazardous Constituents

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

i. Analyte Data

Analyte	Flammable	TCLP Values	Type	Concentration Range From	To	Units	Representative Sample From	To	Units	Detect Limit Limit	Units
Chromium; (TCLP)	No	Yes	1					0.0191	mg/L	Comment:	
Naphthalene	No	No	1	0	24.0	ppb			ppb		
Phenanthrene	No	No	1	0	26.0	ppb			ppb		
Di-n-butylphthalate	No	No	1	0	3000	ppb			ppb		
Bis (2-ethylhexyl) phthalate	No	No	1	0	18000	ppb			ppb		
Di-n-octylphthalate	No	No	1	0	300	ppb			ppb		
1,1-Dichloroethene	Yes	No	1	0	460	pp			ppb		
1,1-Dichloroethane	Yes	No	1	0	83	pp			ppb		
1,1,2-Trichloroethane	No	No	1	0	28	pp			ppb		
Trichloroethylene	Yes	No	1	0	4	pp			ppb		
Ethylbenzene	Yes	No	1	0		pp			ppb		
Xylene	Yes	No	1			pp			ppb		
Antimony	No	No	3	2		mg					
Arsenic	No		3	3		mg/kg					
Barium	No		3	3		mg/kg					
Beryllium			3	96	6	mg/kg					
Cadmium			3	.0029	0.029	mg/kg					
Chromium			3	1.37	13.7	mg/kg					
Cobalt		No	3	0.018	0.18	mg/kg					
Copper	No	No	3	0.066	0.66	mg/kg					
Iron	No	No	3	47	470	mg/kg					
Lead	No	No	3	3 97	39.7	mg/kg					
Manganese	No	No	3	0.216	2.16	mg/kg					
Mercury	No	No	3	0.00335	.0335	mg/kg					
Nickel	No	No	3	0.41	4.07	mg/kg					
Potassium	Yes	No	3	0.23	2.28	mg/kg					
Selenium	No	No	3	5.27	52.7	mg/kg					
Silver	No	No	3	0.72	7.2	mg/kg					
Sodium	Yes	No	3	0.44	4.39	mg/kg					
Thallium	No	No	3	0.31	3.08	mg/kg					
Vanadium	No	No	3	0.16	1.60	mg/kg					
Zinc	No	No	3	0.89	8.90	mg/kg					
Barium; (TCLP)	No	Yes	1					0.1954	mg/L	Comment:	
Cadmium; (TCLP)	No	Yes	1					0.0207	mg/L	Comment:	

Note: "Type*" column designates type of analysis. (1=Approved Methods, 2=Process Knowledge, 3=Both)

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

3. Radiological Characteristics of Material:

a. ☐ Yes ☑ No Is fissile material present?
If yes, waste matrix group is: _____

b. Total transuranic activity per gram of waste is:
☑ <= 10 nCi/g (LLW) or
☐ > 10 nCi/g and <= 100 nCi/g (Alpha LLW) or
☐ > 100 nCi/g (TRU)

c. Isotope inventory:

Transuranic Isotope Inventory

Isotope	Activity Range				Fissionable Material Range			Representative Sample Analysis Activity	Representative Sample Analysis Fissionable Material
Am-241	3.000E-01	to	4.000E-01	nCi/g			nCi/g	3.690E-01	
Pu-238	2.000E-01	to	3.000E-01	nCi/g		to	nCi/g	2.550E-01	
Pu-239	2.000E-01	to	[illegible]E-01	[illegible]		to	nCi/g	2.590E-01	
Pu-240	2.000E-01	to	3.000[illegible]	[illegible]Ci/g		to	nCi/g	2.450E-01	
Summation:	9.000E-01	to	[illegible]	nCi/g	[illegible]E+00	to	0.000E+00 nCi/g		

Note: Sample Analysis [illegible]vity and [illegible]ble Material Units must correspond to Activity Range and Fissionable Material Range.

U233 and U235 Isotopes

Isotope	Activity Range				Fissionable Material Range			Representative Sample Analysis Activity	Representative Sample Analysis Fissionable Material
U-235	2.000E-03	to	3.000E-01	nCi/g		to	nCi/g	2.450E-03	

Note: Sample Analysis Activity and Fissionable Material Units must correspond to Activity Range and Fissionable Material Range.

Other Isotopes

Isotope	Activity Range				Representative Sample Analysis Activity
Ag-108m	4.000E-02	to	6.000E-02	nCi/g	5.210E-02
Co-60	1.000E+00	to	2.000E+00	nCi/g	1.460E+00
Cs-134	1.000E-01	to	2.000E-01	nCi/g	1.110E-01
Cs-137	1.000E+02	to	2.000E+02	nCi/g	1.170E+02
Eu-152	1.000E-01	to	3.000E-01	nCi/g	2.030E-01
Eu-154	4.000E-02	to	6.000E-02	nCi/g	4.970E-02
Sr-90	5.000E+00	to	7.000E+00	nCi/g	5.800E+00
U-234	3.000E-01	to	5.000E+00	nCi/g	4.000E-01
U-238	4.000E-03	to	6.000E-03	nCi/g	5.230E-03
Y-90	5.480E+00	to	6.100E+00	nCi/g	5.800E+00
Zn-65	1.000E-03	to	2.000E-03	nCi/g	1.730E-03

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

d. Expected radiation dose rate at surface: 0 **to** 300 mrem/hr

at 1-meter: 0 **to** 50 mrem/hr

e. ☐ Yes ☑ No Is the waste greater than Class C as defined in 10 CFR 61.557?

f. Content Codes:

Comments

Insert Info	Comments
lundahla 04/17/2002	Moved all containers of debris to this revision (2855N.R2). Had to cr[illegible] th[illegible]rev[illegible]n to delete "scrap metal" from Spec. Char. screen. Rev. 1 was originally created in order to update [illegible]aly[illegible]al [illegible] for both rad and RCRA constituents.
lundahla 04/17/2002	Comment 1. A revision of 2855N was created in orde[illegible] to [illegible]e [illegible]ly[illegible]nd [illegible]etals data to that which would truly be expected on the debris waste contained in this [illegible]le. [illegible]bs[illegible]e, a[illegible]evision was required in order to delete "scrap metal" from the spec. char. sc[illegible] de[illegible]s in [illegible]s [illegible]tes[illegible] was created from the clean up and removal of a tank which had contained [illegible]n. A[illegible]16[illegible]ea[illegible]he analyte data available for this waste was from the analysis of the sludge which w[illegible]he[illegible]th[illegible]t is expected that the debris, PPE etc. which is contained within this waste str[illegible]ll [illegible] co[illegible]in[illegible]m[illegible]percent of the sludge as a contamination. The debris was grouted. The weight per[illegible]he[illegible]bri[illegible]th[illegible]ro[illegible]d waste is appoximately 10 percent. Therefore, the expecte[illegible]e of the [illegible]a r[illegible]ort[illegible]n t[illegible]an[illegible]e s[illegible]io[illegible]nd under the EPA Codes is 0.1 to 1 percent of the max[illegible]ncen[illegible]tio[illegible]ange r[illegible]ed[illegible]m [illegible]ar[illegible]ysis[illegible] this sludge.
castleberryE 04/24/2002	Jim [illegible]ce and E[illegible]tlebe[illegible]ar[illegible]ov[illegible]his material p[illegible]le per request of Anne Lundahl and Rhonda Rohe. Visual insp[illegible]on[illegible]s pe[illegible]ed a[illegible]30[illegible]d [illegible]m Bruce signed off on the hold point.

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Supplemental Information

A. Containers Defined to Date:

Container ID	Container Date	Container Size/Type	Status	De-comm.	Common Name or Material
ARA000061	20-Jun-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
ARA000062	20-Jun-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
ARA000063	20-Jun-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
ARA000064	20-Jun-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
ARA000065	20-Jun-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010080	17-Sep-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010081	17-Sep-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010082	17-Sep-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010083	17-Sep-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010084	17-Sep-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010085	19-Sep-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010086	19-Sep-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010087	19-Sep-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010088	05-Sep-2001	14.9 - M3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010263	14-Aug-2001	0 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010265	17-Sep-2001	41 - FT3	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
WAG010332	25-Apr-2002	85 - GAL	Active	☐	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

B. Profile Change History:

User Name	Date	Explanation
CastleberryE	24-Apr-2002 09:27 AM	BEGIN VALIDATION FOR MATERIAL PROFILE APPROVE
		CASTLEBERRYE. WGS. Call Point-7. Authorized on Generating Unit (OU5-12). RAD DATA VALIDATION PASSED HAZ DATA VALIDATION SOURCE CODE/FORM CODE PASSED EPA CODES PASSED SITE TREATMENT PLAN VALID[illegible] PASSED COMPOSITION VA[illegible] PASSED OVER[illegible]
castleberryE	24-Apr-2002 0[illegible] AM	[illegible] to read Jim Bruce's approval instead of Mike Arndt's
CastleberryE	24-Apr-2[illegible] 09:20 A[illegible]	CAST[illegible] W[illegible] Call Po[illegible]4. Authorized on Generating Unit (OU5-12).
roher	23-Apr-2[illegible] PM	[illegible] or and technical contact and to Review profile
RoheR	23-Apr-2[illegible] 05:41 PM	GIN VALIDATION FOR MATERIAL PROFILE REVIEW
		ROHER. WGS. Call Point-6. Authorized on Generating Unit (OU5-12). RAD DATA VALIDATION PASSED HAZ DATA VALIDATION SOURCE CODE/FORM CODE PASSED EPA CODES PASSED SITE TREATMENT PLAN VALIDATION PASSED COMPOSITION VALIDATION PASSED OVERALL VALIDATION PASSED
RoheR	23-Apr-2002 05:40 PM	ROHER. WGS. Call Point-4. Authorized on Generating Unit (OU5-12).
lundahla	17-Apr-2002 02:37 PM	check question 7 under char. Req yes
LundahlA	17-Apr-2002 02:30 PM	LUNDAHLA. WGS. Call Point-4. Authorized on Generating Unit (OU5-12).
roher	08-Apr-2002 09:47 AM	to review profile
RoheR	08-Apr-2002 09:40 AM	ROHER. WGS. Call Point-4. Authorized on Generating Unit (OU5-12).

Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY

2855N.R2 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

B. Profile Change History:

User Name	Date	Explanation
LundahlA	18-Feb-2002 12:28 PM	BEGIN VALIDATION FOR MATERIAL PROFILE CERTIFY
		LUNDAHLA. WGS. Call Point-5. Authorized on Generating Unit (OU5-12). RAD DATA VALIDATION PASSED HAZ DATA VALIDATION SOURCE CODE/FORM CODE PASSED EPA CODES PASSED SITE TREATMENT PLAN VALID PASSED COMPOSITION VA PASSED OVER PA E

End port

Appendix C

IWTS Container Profile Example

Integrated Waste Tracking System
Container Profile
INFORMATION ONLY

WAG010088 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

General and PCB Information

1. TID Seal No. (if applicable): n/a
2. Physical Form: Solid
3. Chemical Form or CAS No.: oxide
4. Container Vented?: ☐ Yes ☑ No Vent Type:
5. PCB Capacitors?: ☐ Yes ☑ No
   a. Number of Items in Package:
   b. Size of Capacitors: ☐ Large ☐ Small ☐ N/A
   c. Leaking?: ☐ Yes ☐ No
6. PCB Transformer or Regulators: ☐ Yes ☑ No
   a. Dimension:
   b. Name Plate Gallons:
   c. Weight (lbs)/item:
7. Out of Service Date:
8. Bulk Lead?: ☐ Ye ☑ No
   Bulk Lead Type:
9. Other: nor
10. Other: no
11. Other: n
    Contents Physically Verifie ☐ Yes ☐ No
    Ver : Anne Lundahl
    Date: 17-Oct-2001 12:54 PM

Example

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Integrated Waste Tracking System
Container Profile
INFORMATION ONLY

WAG010088 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Marks and Labels

1. **Marks and Labels:**

a. Generator Name	☑ Yes	☐ No
b. Generator Phone No.	☑ Yes	☐ No
c. Package Weight in Lbs.	☑ Yes	☐ No
d. Orientation Markings	☐ Yes	☑ No
e. Waste Characterization ID	☑ Yes	☐ No
f. EPA Marking	☑ Yes	☐ No
g. Proper DOT Markings	☑ Yes	☐ No
h. Other	radiation label	
i. Other	CERCLA label	

2. **Additional Descriptions for Materials**

3. **Special Handling Instructions and Additional Information**
Crane used to transfer box must be rated to lift at least 50 lbs

4. **List EPA Codes (All):** F0 005

5. **List EPA Codes (Reportable):**

Co ition of Material

Related Chemical Cha eristic (Use *Other* Whe A)	Name of Material or Chemical	Carcinogen Yes	Carcinogen No	Composition
Concrete	grout used to macroencapsulate debris	☐	☑	97.7 wt%
Steel, Stainless	stainless steel piping and tank	☐	☑	2.3 wt%

Hazardous Constituents

Unique ID	DOT RQ	EPA Haz. Waste No.	Amount		Waste Description and Treatment Subcategory
F001A	☐	F001	220	mg/kg	Spent halogenated solvents used in degreasing : 1,1,1-Trichloroethane
F001D	☐	F001	0	mg/kg	Spent halogenated solvents used in degreasing : Methylene chloride
F001F	☐	F001	45	mg/kg	Spent halogenated solvents used in degreasing : Trichloroethylene
F005H	☐	F005	21	mg/kg	Spent non-halogenated solvents : Toluene

DOT Shipping Description

DOT Description

Radioactive material, LSA, n.o.s., 7, UN2912, Am-241 Pu-239 Pu-240 Pu-238 U-234 Cs-137, solid oxide 1.1E-03 TBq LSA II, Fissile excepted

Integrated Waste Tracking System
Container Profile
INFORMATION ONLY

WAG010088 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Radiological Characteristics

1. **Waste Package:**
   - a. **Radiation Dose Rate at Contact with Waste Package:** = 80 mrem/hr
     Radiation Dose Rate at One Meter from Waste Package: = 10 mrem/hr
   - b. **Neutron Dose Rate at Contact from Waste Package:** < 0.5 mrem/hr
     Neutron Dose Rate at One Meter from Waste Package: < 0.5 mrem/hr
2. **Are Dose rates for the Shipping Package different from the Waste Package?** ☐ ☑
3. **Shipping Package (i.e., shielded cask):**
   - a. **Radiation Dose Rate at Contact with Waste Package:**
     Radiation Dose Rate at One Meter from Waste Package:
   - b. **Neutron Dose Rate at Contact from Waste Package:**
     Neutron Dose Rate at One Meter from Waste Package:

Nuclide Summary

Nuclides (All Identified): Ag-108m Am-241 Co-60 Cs-134 Cs-137 Eu-152 Eu-154 Pu-238 Pu-239 Pu-240 Sr-90 U-234 U-235 U-238 Y-90

Nuclides (95% Risk): Am-241 Pu-240 Pu-238 U-234 Cs-137

Total Activity (No Decay): 1.123E-03 Curies 1.123E-03 TBq

Total Fissile: 1.005E-01 grams

Radionuclide Worksheet(s)

Source	Nuclide	Nuclide Reported	Total Amount	Non-AM Amount	Act. Metal Amount	Unit	DOT A2	Fissile (grams)
Generator Submission								
	Ag-108m		1.190E-05	1.190E-05		Ci	✓	
	Am-241		8.430E-05	8.430E-05		Ci	✓	2.456E-05
	Co-60		3.330E-04	3.330E-04		Ci	✓	
	Cs-134		2.530E-05	2.530E-05		Ci	✓	
	Cs-137		2.690E-02	2.690E-02		Ci	✓	
	Eu-152		4.650E-05	4.650E-05		Ci	✓	
	Eu-154		1.140E-05	1.140E-05		Ci	✓	
	Pu-238		5.830E-05	5.830E-05		Ci	✓	3.404E-06
	Pu-239		5.940E-05	5.940E-05		Ci	✓	9.574E-04
	Pu-240		5.940E-05	5.940E-05		Ci	✓	
	Sr-90		1.330E-03	1.330E-03		Ci	✓	

Integrated Waste Tracking System
Container Profile
INFORMATION ONLY

WAG010088 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Radionuclide Worksheet(s)

Source	Nuclide	Nuclide Reported	Total Amount	Non-AM Amount	Act. Metal Amount	Unit	DOT A2	Fissile (grams)
Generator Submission								
	U-234		9.160E-05	9.160E-05		Ci	✓	
	U-235		5.610E-07	5.610E-07		Ci	✓	2.595E-01
	U-238		1.200E-06	1.200E-06		Ci	✓	
	Y-90		1.330E-03	1.330E-03		Ci	✓	
	Zn-65		3.970E-07	3.9[illegible]		Ci	✓	

Task H[illegible]

Task Date	INEEL Task ID	Task Status	Reject	[illegible]b	[illegible]stination Type	Grid Location (X: Y: Z:)
17-Dec-2001	SSA WAG5 #3	[illegible]d		[illegible]SA	Storage	
24-Apr-2002	SSA/WAG5	Exec		[illegible]	Storage	

[illegible]omments

Insert Info	Comments
12/13/2001 lundahla	The [illegible]TS [illegible]er[illegible] and Waste Characterization Profile states and certifies that this debris waste form was treated by an a[illegible]ment method via macroencapsulation by use of a jacket of inert inorganic materials to "substantially redu[illegible]e exposure to potential leaching media," as specified in 268.45 for hazardous debris. The performance and[illegible]esign/operating standard for this technology states that "encapsulated material must completely encapsulate debris and be resistant to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes)." Therefore, this waste stream meets the performance standard for macroencapsulation, and meets the applicable LDR requirements.
12/13/2001 lundahla	The concrete mix used to macroencapsulate the tank was selected because of the slump and ability of the mix to flow and fill voids. An estimate of void space within the monolith is based upon the amount of concrete used. A total of 13 yards of concrete was ordered based upon the volume of the form. All but one-half yard was used. The actual volume within the wooden form is calculated to be 13.25 yd3. Based on the volume of the wooden form, a void space of less than 4% can be calculated. However, the concrete volume order was based upon the form volume and did not take into account the presence if the tank, rebar, etc. Taking these into account, the actual void volume would be much lower. The volume occupied by the tank itself, if compacted into a square with no voids, is 3.86 cubic feet or 0.14 cubic yards. Prior to the introduction of concrete into the form, the tank openings (i.e., manhole and access port) were opened to allow flow of concrete into the tank. An alternative approach to calculating void volume would be to estimate the corners and crevices within the tank where concrete may not be able to flow because of air resistance. Only the upper end corners of the tank would present a problem. A rough estimate of the volume within these corners based upon photographic evidence is less than 4 cubic feet. The tank had been crushed to approximately one-half its original volume of 1,000 gal, or approximately 66 cubic feet. A cubic yard (27 cubic feet) of concrete had previously been added to the tank, thus reducing this "empty" volume to 39 cubic feet. As evidenced by the concrete used, this remaining 39 cubic feet of void space was clearly filled during the grouting activity.
12/14/2001 lundahla	The following information is provided for ICDF waste acceptance: calculation for total grams estimated in the sludge residue per VOC constituent. Assumptions: 5% of tank inner surface area still showed visible signs of sludge residue (same assumption used for calculating rad source term); 1/16" thickness of sludge residue assumed over surface area (believed conservative); sludge density of 1.21 g/ml (information provided by analysis of the sludge). Subsequently calculated the following total grams per VOC constituent: 1,1,1,-Tricholorethane = .003 grams; Methelene Chloride = 0 grams; Trichloroethylene = 6.8e-6 grams; Toluene 3.15e-6 grams. See file for calculations.

Integrated Waste Tracking System
Container Profile
INFORMATION ONLY

WAG010088 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Comments

Insert Info	Comments
12/14/2001 lundahla	Actual wooden form plywood frame dimensions: O.D. = 12.8' L x 4.7' H x 6' W, 3/4" thick plywood. Outer dimensions including 2' x 6' joints: 13.7' L x 5.5' H x 7' W. See file for specs and diagrams.
10/23/2001 lundahla	The ARA-16 Tank 729 radionuclide source term estimation was based on activity calculated/estimated for the tank piping system. First, the inside surface areas were calculated for the tank and piping. The tank to pipe surface area ratio was then multiplied by the total pipe activity (by nuclide) to obtain estimated tank activity. This was then multiplied by 0.05 based on visual examination of the inner surfaces of the tank prior to d lition. Visual examination showed that approximately 5% or less, of the inside surface of the tank was c red idual sludge; as a conservative measure, a value of 5% was assumed. Pipe surface area = 419.2 ft2 Tan un area = 176 ft2. Inner surface area ratio (tank/piping) = .42. Final was form weight = 48, 700 lbs. S file r s dsheet calculations. The calculations were prepared by John R. Giles; reviewed by Chri Gro e, gical Engineer.
10/31/2001 lundahla	Total nCi/g for the radionuclide tank waste form is 1.31e+ TR e-3 Ci/g. This falls within the range of activity established in the material profile 2855N.R
12/13/2001 lundahla	
10/17/2001 lundahla	Contents s is 13.7 ' L 5.5 x W ode ox lu the stainless steel tank (Tank 729) encapsulated in concr . This r onu ide k w re ve om RA-16 during D&D activities. The tank was crushed, plac e bo e box le ith ncrete gr as specified in SPC-1492 (see file). This debris was total ncapsula rout rd o et e waste a ptance criteria for the INEEL CERCLA Disposal Facility (ICD Th aste ing f sfe d t e SSA at INTEC pending disposition to the ICDF. NET volume/weight valu rofil ese plete waste form, including the grout. The gross weight of waste form monolith is ju 50,00 49); tank weight = 1,700 lbs; concrete weight = 47,000 lbs; box TARE weight = 1,000 lbs.

Quality Record Log

Screen	Column	Trans. Type	Before Change	After Change	Reason For Change	Insert
Define	Parent Material rofile	Update	2855N.R1	2855N.R2	move container to 2855n.r2	LundahlA 02/15/2002

Edit Log

User Name	Date/Time	Explanation
RiceR	09-Apr-2002 09:51:50 AM	BEGIN VALIDATION FOR CONTAINER PROFILE APPROVE RICER. WGS. Call Point-7. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12). MATERIAL PROFILE vs. CONTAINER WARNING: NUCLIDES PASSED MATERIAL PROFILE vs. CONTAINER WARNING: EPA CODES PASSED MATERIAL PROFILE vs. CONTAINER WARNING: UHCs PASSED RAD DATA VALIDATION PASSED PHYSICAL DATA CHECKS PASSED OVERALL VALIDATION PASSED

Integrated Waste Tracking System
Container Profile
INFORMATION ONLY

WAG010088 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Edit Log

User Name	Date/Time	Explanation
RiceR	09-Apr-2002 09:51:50 AM	RICER. WGS. Call Point-7. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
RoheR	08-Apr-2002 05:33:52 PM	BEGIN VALIDATION FOR CONTAINER PROFILE REVIEW ROHER. WGS. Call Point-6. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12). MATERIAL PROFILE vs. CONTAINER WARNING: NUCLIDES PASSED MATERIAL PROFILE vs. CONTAINER WARNING: EPA CODES PASSED MATERIAL PROFILE vs. CONTAINER WARNING: UHCs PASSED RAD DATA VALIDATION PASSED PHYSICAL DATA CHECKS PASSED OVERALL VALIDATION PASSED
RoheR	08-Apr-2002 05:32 PM	ROHER. WGS. Call Point-6. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
LundahlA	05-Apr-2002 1 M	BEGIN VALIDATION FOR CONTAINER PROFILE CERTIFY LUNDAHLA. WGS. Call Point-5. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12). MATERIAL PROFILE vs. CONTAINER WARNING: NUCLIDES PASSED MATERIAL PROFILE vs. CONTAINER WARNING: EPA CODES PASSED MATERIAL PROFILE vs. CONTAINER WARNING: UHCs PASSED RAD DATA VALIDATION PASSED PHYSICAL DATA CHECKS PASSED OVERALL VALIDATION PASSED
LundahlA	05-Apr-2002 12:25:03 PM	LUNDAHLA. WGS. Call Point-5. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
lundahla	15-Feb-2002 02:58:56 PM	move container to 2855n.r2
LundahlA	15-Feb-2002 02:54:28 PM	LUNDAHLA. WGS. Call Point-4. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).

Integrated Waste Tracking System
Container Profile
INFORMATION ONLY

WAG010088 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Edit Log

User Name	Date/Time	Explanation
LundahlA	15-Feb-2002 02:54:16 PM	LUNDAHLA. WGS. Call Point-7. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
lundahla	14-Dec-2001 11:01:05 AM	add comment defining monolith box frame dimensions
LundahlA	14-Dec-2001 10:59:26 AM	LUNDAHLA. WGS. Call Point-4. Authorized o en. Unit (OU5-12). Authorized on Current Location (OU5-12).
lundahla	14-Dec-2001 08:58:19 AM	add comment regarding VOC grams
LundahlA	14-Dec-2001 08:56:36 AM	LUNDAHLA. WGS. Call Point-4. A o (OU5-12). Authorized on Current Location (OU5-12).
lundahla	13-Dec-2001 09:17:35 AM	Add comment regard
LundahlA	13-Dec-2001 09:16:07 AM	LUNDAH Gen. Unit (OU5-12). Authorized on Current Locati
RiceR	07-Nov-2001 1 M	ER PROFILE APPROVE RICE Point-7. Autho d on Gen. Unit (OU5-12). Authorized on Current Location OU5). AT L PROFILE vs. CONTAINER WARNING: NUCLIDES SSED MATERIAL PROFILE vs. CONTAINER WARNING: EPA CODES PASSED MATERIAL PROFILE vs. CONTAINER WARNING: UHCs PASSED RAD DATA VALIDATION PASSED PHYSICAL DATA CHECKS PASSED OVERALL VALIDATION PASSED
RiceR	07-Nov-2001 12:20:32 PM	RICER. WGS. Call Point-7. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
KeatingS	07-Nov-2001 11:20:52 AM	KEATINGS. TRAFFIC. Call Point-8. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
keatings	07-Nov-2001 11:19:30 AM	provide psn
KeatingS	07-Nov-2001 11:18:55 AM	KEATINGS. TRAFFIC. Call Point-4. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).

Integrated Waste Tracking System
Container Profile
INFORMATION ONLY

WAG010088 : WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

Edit Log

User Name	Date/Time	Explanation
MartinsonB	05-Nov-2001 12:06:29 PM	BEGIN VALIDATION FOR CONTAINER PROFILE REVIEW
		MARTINSONB. WGS. Call Point-6. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
		MATERIAL PROFILE vs. CONTAINER WARNING: NUCLIDES PASSED
		MATERIAL PROFILE vs. CONTAINER WARNING: EPA CODES PASSED
		MATERIAL PROFILE vs. CONTAINER WARNING: UHCs PASSED
		RAD DATA VALIDATION PASSED
		PHYSICAL DATA CHECKS PASSED
		OVERALL VALIDATION PASSED
MartinsonB	05-Nov-2001 12:06:29 PM	MARTINSONB. WGS. Call Point-6. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
lundahla	31-Oct-2001 02:50:53 PM	Added comment addressing total nCi/g for this container
LundahlA	31-Oct-2001 02:48:51 PM	LUNDAHLA. WGS. Call Point-4. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
lundahla	31-Oct-2001 02:50:20 PM	correct nuclide value for Y90 and add comment regarding total nCi/g for this container
LundahlA	31-Oct-2001 02:48:51 PM	LUNDAHLA. WGS. Call Point-4. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
LundahlA	23-Oct-2001 12:26:54 PM	BEGIN VALIDATION FOR CONTAINER PROFILE CERTIFY
		LUNDAHLA. WGS. Call Point-5. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).
		MATERIAL PROFILE vs. CONTAINER WARNING: NUCLIDES PASSED
		MATERIAL PROFILE vs. CONTAINER WARNING: EPA CODES PASSED
		MATERIAL PROFILE vs. CONTAINER WARNING: UHCs PASSED
		RAD DATA VALIDATION PASSED
		PHYSICAL DATA CHECKS PASSED
		OVERALL VALIDATION PASSED
LundahlA	23-Oct-2001 12:26:54 PM	LUNDAHLA. WGS. Call Point-5. Authorized on Gen. Unit (OU5-12). Authorized on Current Location (OU5-12).

Appendix D

IWTS Shipment Task Example

SSA WAG 5 #1
ARA-16 piping to SSA

ICDF Staging and Storage Annex

Information Only

Task Definition

Originating Facility		Destination Unit
WAG 5 : OU5-12 Idaho National Engineering and Environmental Laboratory Waste Area Group 5 - PBF/AR A WAG 5 Operable Unit 5-12 Idaho Falls, ID ☐ System Controlled as of:	24-Jul-2001 12:05:00 PM Shipment	WAG 3 : SS Idaho National ineeri nvironmental Laboratory Waste Area Gr 3 - C ICDF St g a to D Syst Co lled 01-Jun-2000 12:00 AM

Load or Campaign ID:

Charge No : 3xbc31302

Ex ut n

✓	Name: ond ohe Phone: 1048 FAX:) 526-863 E-Mail: HERD
✓	Name: James Bruce Phone: (208) 526-4370 FAX: (208) 526-9473 E-Mail: EJJ@INEL.GOV

Status

Record Status	Record Status		Record Status
☑ Active	☑ Locked (user and date):	roher 23-Jul-2001	User: RoheR
☐ Pending	☐ Unlocked		Date: 23-Jul-2001 08:53:24 AM
☐ Cancelle d			

Containers

Barcode	Unit From	Approved Mat. Profile	Approved Container	Reject	Container	Common Name of Material
ARA000061	OU5-12	☑	☐	☐	41-FT3 CM	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
ARA000062	OU5-12	☑	☐	☐	41-FT3 CM	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
ARA000064	OU5-12	☑	☐	☐	41-FT3 CM	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16
ARA000065	OU5-12	☑	☐	☐	41-FT3 CM	WAG 5: Grouted Piping, 1000 gal. tank, misc. tools and equipment, and PPE from removal of tank 729 at site ARA-16

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Example

IWTS

SSA WAG 5 #1
ARA-16 piping to SSA

ICDF Staging and Storage Annex

Information Only

Grid Locations

Barcode	Rej.	Previous Task ID	Previous Grid Location Grid X	Grid Y	Grid Z	New Grid Location Grid		Grid Z
ARA000061	☐							
ARA000062	☐							
ARA000064	☐							
ARA000065	☐							

Container Count (excluding rejects): 4

General Information (If Applicable)

Shipment is : Bulk Containerized

Are containers palletized?

If yes, give number and size:

DOT Segregation Requirements: None

Special Handling Required?: ☐ Yes ☑ No

If yes, summarize handling means below, and submit design to receiving organization:

Verification, Review, and Approval (If Applicable)

Are Approvals Required? ☑ Yes ☐ No roher

Signature Date: 7/23/01 08:56:01

Certification

Shipment Certifier: ☑ roher

Signature Date: 23-Jul-2001

Name: Rhonda Rohe
Phone: (208) 526-1048
FAX: (208) 526-8632
E-Mail: ROHERD
Pager: 9171

List Approving Organization: wgs/wag 3

Approvals

WGS Approval: ☑ roher

Signature Date: 23-Jul-2001

Name: Rhonda Rohe
Phone: (208) 526-1048
FAX: (208) 526-8632
E-Mail: ROHERD
Pager: 9171

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IWTS

SSA WAG 5 #1
ARA-16 piping to SSA

ICDF Staging and Storage Annex

Information Only

Packaging and Traffic Approval: V keatings
Signature Date: 23-Jul-2001

Name: Steve Keating
Phone: (208) 526-0132
FAX: (208) 536-7363
E-Mail: SJK
Pager: 55

Receiving Facility Approval : V castleberrye
Signature Date: 23-Jul-2001

Name: Ja Br
Ph (2 26
(2 26
M EJ
Pag 73

Example

Co s

Insert Info	Comments
roher 07/23/2001	first ship of -V w to SSA e task must be approved by Jim Bruce or hi s e. Th ip nt consi me ox 4x ft tha being shipped SCO .
roher 07/23/2001	is w e stre ebris h en ated by macroencapsulation to meet LDRs.

Edit Log

User Name	Date/Tim	Explanation
castleberrye	24-Jul-20 9 PM	Time and date shipment received is being added for Jim Bruce.
CastleberryE	24-Jul-2001 03:02:17 PM	BEGIN TASK EVALUATION, REQUESTED BY CASTLEBERRYE, AT 2001-07-24 15:02:16.883000 CASTLEBERRYE. WGS. Call Point-6. Authorized on Originating Location (WAG 5).Authorized on Destination Location (SSA).Overall Authorization Passed. AUTHORIZATION SCHEME: PASSED REQUIRED APPROVALS/SIGNATURES: PASSED EXECUTION STATE: FULL EXECUTE (189) APPROVED MATERIAL PROFILE CHECK: PASSED CONTAINER PROFILE VERIFICATION AND STATUS CHECK: PASSED ANNUAL MATERIAL PROFILE REVIEW CHECK: PASSED TIME AND LOCATION INTEGRITY CHECK: PASSED, C= 4 CHECK INBOUND FOR STOLEN RECEIVING CONTAINERS: PASSED SUMMARY RESULT: **** PASSED ****
CastleberryE	24-Jul-2001 03:02:16 PM	CASTLEBERRYE. WGS. Call Point-6. Authorized on Originating Location (WAG 5).Authorized on Destination Location (SSA).Overall Authorization Passed.
CastleberryE	24-Jul-2001 02:43:27 PM	CASTLEBERRYE. WGS. Call Point-7. Authorized on Originating Location (WAG 5).Authorized on Destination Location (SSA).Overall Authorization Passed.
castleberrye	23-Jul-2001 01:23:43 PM	Jim Bruce is approving a shipment transfer per Elita Castleberry

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